Title (en)

Method and device for controlling a component of a textile machine which comprises several identical working stations placed side by side

Title (de)

Verfahren und Vorrichtung zur Steuerung einer Komponente einer eine Vielzahl gleichartiger Arbeitsstellen nebeneinander aufweisenden Textilmaschine

Title (fr)

Méthode et dispositif de commande d'un composant d'une machine textile qui comprend plusieurs postes de travail identiques placés côte à côte

Publication

EP 1054086 B1 20040225 (DE)

Application

EP 00106780 A 20000330

Priority

DE 19923047 A 19990520

Abstract (en)

[origin: EP1054086A1] To control a component at a workstation, at a textile machine such as a spinner with a number of identical workstations, each component has an individual control with an assigned default address with a bus connection to a central control. The components, in sequence, pass through an identification phase where the default address is converted into an address specific to the component. The central control converts a component into a conversion mode, and the individual control is set to the default address. On a change of a number of components, where at least some already have an address specific to the components, an initiating phase is triggered where all the individual controls connected to the central control are returned to the default address before the components are linked to the central control in the required identification phase sequence. After the allocation of the default addresses, all the components linked to the central control are separated for control purposes and then reconnected in the required sequence for the identification phase. The default addresses are converted into addresses specific to the components, and the nearest component for the identification phase is put in a control link with the central control. After the exchange of a separate component, the new component is assigned the address of the discarded component. The addresses specific to the components are set according to the component locations. The initiating phase is triggered before the first component is linked to the central control through the bus system, and the central control identifies the workstation signals to show the next component to be connected to the bus system. The identification phase has a time delay for a subsequent component, to allow for the prior initiating phase. During the identification phase, the default address is altered in an initiating address which, is newly set by the central control in a cyclic scanning, and converted into an address specific to the component. The identification phase is triggered on the connection of a component to the bus system through the supply of a control current to the component or the transmission of a release signal. In the absence of an address specific to the component or a default address, the component is registered as faulty at the central control. The successful conversion of the default address into an address specific to the component is displayed, especially by a temporary operation of the component pref. through a temporary drive action with one or more preset speeds. In the absence of a response from the central control, from the scanning action, there is a delay before a further command is transmitted to the individual component control and/or the individual control stops the component and/or the address specific to the component is restored to a default address and/or a fault signal is generated. The required mass development of a splicer is in preset values derived from the rules in the adjustment values to set the control of the start and/or increase in the fiber feed to the spinner. Additional values are also applied, especially to set the start and/or the speed of the return of a broken yarn end into the spinning zone and/or the resumption of yarn take-off and/or the acceleration of the previously braked spinner. The mass development at the splicer is measured and, on a deviation, the preset value and/or the rule in force is corrected accordingly. Further values are also taken into account which affect the operation such as the air humidity and/or the spinner rotary speed and/or the thickness of the sliver fed to the spinner, to be used to correct the preset value and/or the rule in force. The adjustment values are taken from the input values and the preset rules using a fuzzy logic, and the adjustment values are optimized automatically. On a current failure, an auxiliary current supply is activated together with a controlled action to bring the spinning components up to working speeds when the current is restored. On breaching a given time span, the deceleration is continued without control and/or the component is braked. The central control transmits a starting signal to a component which has been switched off. An Independent claim is included for a textile machine control system, where the separate controls (30A) at each controlled component (10,12,13,14,16) are linked to the central control (4,4a) by a bus system (42), where the default address is converted into an address specific to the component.

IPC 1-7

D01H 4/44; D01H 1/16

IPC 8 full level

D01H 1/16 (2006.01); **D01H 4/44** (2006.01)

CPC (source: EP US)

D01H 1/16 (2013.01 - EP US); **D01H 4/44** (2013.01 - EP US)

Cited by

DE102007040216B4; CN108861811A; EP1953648A1; CN106283288A; EP2031105A3; US7392648B2; WO2005035843A3; WO2006117040A1; DE102007040216A1; US7752831B2

Designated contracting state (EPC)

BE CH DE IT LI

DOCDB simple family (publication)

EP 1054086 A1 20001122; **EP 1054086 B1 20040225**; DE 19923047 A1 20001123; DE 50005378 D1 20040401; US 6574526 B1 20030603

DOCDB simple family (application)

EP 00106780 A 20000330; DE 19923047 A 19990520; DE 50005378 T 20000330; US 57370800 A 20000518